

**OPTIMIZATION OF ANNEALING TEMPERATURE FROM  
LOCAL *Chromolaena odorata***

**NUR HIDAYAH MD YAZID**

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This Final Year Project Report entitled “**Optimization of Annealing Temperature from Local *Chromolaena odorata***” was submitted by Nur Hidayah binti Md Yazid, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

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Suwaibah binti Mohamed  
Supervisor  
Faculty of Applied Sciences  
Universiti Teknologi MARA  
72000 Kuala Pilah  
Negeri Sembilan

---

Sarini binti Ahmad Wakid  
Project Coordinator  
Faculty of Applied Sciences  
Universiti Teknologi MARA  
72000 Kuala Pilah  
Negeri Sembilan

---

Dr. Nor' Aishah binti Abu Shah  
Head of Pure Science School  
Faculty of Applied Sciences  
Universiti Teknologi MARA  
72000 Kuala Pilah  
Negeri Sembilan

Date: \_\_\_\_\_

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## ABSTRACT

### OPTIMIZATION OF ANNEALING TEMPERATURE FROM LOCAL *Chromolaena odorata*

*Chromolaena odorata* belongs to the Asteraceae family which was originally came from Central and South America. In this study the efficiency of a modified CTAB method for DNA extraction from local *C. odorata* leaves were determined based on their DNA concentration, DNA yield, DNA band and purity. The optimum PCR annealing temperature of local *C. odorata* was identified by using ITS1 and ITS4 primer amplification. More clear and intact DNA band was produced from extraction using modified CTAB method. The values obtained from the CTAB extraction method for DNA purity, DNA concentration and DNA yield were  $1.65 \pm 0.06$ ,  $101.6 \pm 7.638$  ng/  $\mu$ L and  $152.5 \pm 11.456$  ng/mL respectively. The values obtained from the modified CTAB method for DNA purity, DNA concentration and DNA yield were  $1.82 \pm 0.03$ ,  $118.3 \pm 7.638$  ng/  $\mu$ L and  $177.5 \pm 11.456$  ng/mL respectively. Modified CTAB extraction method are much more preferable to isolate DNA from local *C. odorata* due to the presence of reagents such as phenol, polyvinylpyrrolidone, B-mercaptoethanol and also extended treatment of RNase. This study showed that the exact annealing temperature for the isolated DNA from *C.odorata* with ITS 1 and ITS4 amplification were 65°C and 63°C respectively. Both PCR products obtained were in the range of 250 to 300 base pair in size, which indicates that the amplicon size referred to the primer characteristics.